

Application No. 09/894,870

Amendment dated September 2, 2005

Reply to Notice of Non-Responsive Amendment dated August 2, 2005

**Amendment to the Abstract:**

In accordance with 37 C.F.R. §§1.121(b) and 1.125, and in response to objections to the previously submitted specification, please replace the original abstract with the abstract appearing following this page.

## **ABSTRACT OF THE DISCLOSURE**

A method for applying an algorithm to facilitate the design of wideband omnidirectional antennas, and the design of sleeve cage monopole and sleeve helix units  
5 includes rapid resolution of a complex relationship among antenna components to yield an optimal system. A genetic algorithm is used with fitness values for design factors expressed in terms to yield optimum combinations. Cage antennas are optimized via a genetic algorithm for operation over a wide band with low VSWR. Genetic algorithms and an integral equation solver are employed to determine the position and lengths of  
10 parasitic wires around a cage antenna in order to minimize VSWR over a band. The cage may be replaced by a normal mode quadrifilar helix for height reduction and with re-optimized parasites.